

## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical  
Information Center (STIC) no errors detected.**

Application Serial Number: 10/750,323

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## RAW SEQUENCE LISTING

DATE: 10/19/2004

PATENT APPLICATION: US/10/750,323

TIME: 09:18:42

Input Set : N:\Crf3\RULE60\10750323.raw.txt

Output Set: N:\CRF4\10192004\J750323.raw

## SEQUENCE LISTING

## 3 (1) GENERAL INFORMATION:

5 (i) APPLICANT: Pulst, Stefan M

7 (ii) TITLE OF INVENTION: NUCLEIC ACID ENCODING SPINOCEREBELLAR  
8 ATAXIA-2 AND PRODUCTS RELATED THERETO

10 (iii) NUMBER OF SEQUENCES: 19

12 (iv) CORRESPONDENCE ADDRESS:

13 (A) ADDRESSEE: Muetting, Raasch &amp; Gebhardt, P.A.

14 (B) STREET: 119 North Fourth Street

15 (C) CITY: Minneapolis

16 (D) STATE: Minnesota

17 (E) COUNTRY: USA

18 (F) ZIP: 55401

20 (v) COMPUTER READABLE FORM:

21 (A) MEDIUM TYPE: Floppy disk

22 (B) COMPUTER: IBM PC compatible

23 (C) OPERATING SYSTEM: PC-DOS/MS-DOS

24 (D) SOFTWARE: PatentIn Release #1.0, Version #1.30

26 (vi) CURRENT APPLICATION DATA:

-&gt; 27 (A) APPLICATION NUMBER: US/10/750,323

-&gt; 28 (B) FILING DATE: 30-Dec-2003

-&gt; 33 (C) CLASSIFICATION: 536

-&gt; 30 (vii) PRIOR APPLICATION DATA:

31 (A) APPLICATION NUMBER: US/08/727,084

32 (B) FILING DATE: 08-OCT-1996

35 (viii) ATTORNEY/AGENT INFORMATION:

36 (A) NAME: Muetting, Ann M.

37 (B) REGISTRATION NUMBER: 33,977

38 (C) REFERENCE/DOCKET NUMBER: 232.00010101

40 (ix) TELECOMMUNICATION INFORMATION:

41 (A) TELEPHONE: 612/305-1220

42 (B) TELEFAX: 612/305-1228

46 (2) INFORMATION FOR SEQ ID NO: 1:

48 (i) SEQUENCE CHARACTERISTICS:

49 (A) LENGTH: 516 base pairs

50 (B) TYPE: nucleic acid

51 (C) STRANDEDNESS: both

52 (D) TOPOLOGY: both

54 (ii) MOLECULE TYPE: DNA (genomic)

58 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:

|    |   |     |
|----|---|-----|
| 60 | TTGGTAGCAA CGGAAACGGC GGCGGCGCGT TTCGGCCCCG CTCCCGGCGG CTCCTTGGTC | 60  |
| 62 | TCGGCGGGCC TCCCGCCCC TCGTCGTCG TCCTTCTCCC CCTCGCCAGC CCGGGCGCCC   | 120 |
| 64 | CTCCGGCCGC GCCAACCCGC GCCTCCCCGC TCGGCGCCCG TCGTCCCCG CCGCGTTCCG  | 180 |

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66 GCGTCTCCTT GGCGCGCCCG GCTCCCGGCT GTCCCCGCCC GCGTGCGAG CCGGTGTATG      240
68 GGCCCTCAC CATGTCGCTG AAGCCCCAGC AGCAGCAGCA GCAGCAGCAG CAACAGCAGC      300
70 AGCAGCAACA GCAGCAGCAG CAGCAGCAGC AGCCGCGGCC CGCGGCTGCC AATGTCCGCA      360
72 AGCCCGGCGG CAGCGGCCTT CTAGCGTCGC CCGCCGCCGC GCCTTCGCCG TCCTCGTCCT      420
74 CCGTCTCCTC GTCCTCGGCC ACGGCTCCCT CCTCGGTGGT CGCGGCGACC TCCGGCGGCG      480
76 GGAGGCCCGG CCTGGGCAGG TGGGTGTCGG CACCCC                                516
78 (2) INFORMATION FOR SEQ ID NO: 2:
80   (i) SEQUENCE CHARACTERISTICS:
81       (A) LENGTH: 4481 base pairs
82       (B) TYPE: nucleic acid
83       (C) STRANDEDNESS: both
84       (D) TOPOLOGY: both
86   (ii) MOLECULE TYPE: cDNA
89   (ix) FEATURE:
90       (A) NAME/KEY: CDS
91       (B) LOCATION: 163..4101
94   (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:
96 ACCCCCGAGA AAGCAACCCA GCGCGCCGCC CGTCTCTCAC GTGTCCCTCC CGGCCCGGG      60
98 GCCACCTCAC GTTCTGCTTC CGTCTGACCC CTCCGACTTC CCGTAAAGAG TCCCTATCCG      120
100 CACCTCCGCT CCCACCCGGC GCCTCGGCGC GCCCGCCCTC CG ATG CGC TCA GCG      174
101                                     Met Arg Ser Ala
102                                     1
104 GCC GCA GCT CCT CGG AGT CCC GCG GTG GCC ACC GAG TCT CGC CGC TTC      222
105 Ala Ala Ala Pro Arg Ser Pro Ala Val Ala Thr Glu Ser Arg Arg Phe
106   5          10          15          20
108 GCC GCA GCC AGG TGG CCC GGG TGG CGC TCG CTC CAG CGG CCG GCG CGG      270
109 Ala Ala Ala Arg Trp Pro Gly Trp Arg Ser Leu Gln Arg Pro Ala Arg
110          25          30          35
112 CGG AGC GGG CGG GGC GGC GGT GGC GCG GCC CCG GGA CCG TAT CCC TCC      318
113 Arg Ser Gly Arg Gly Gly Gly Gly Ala Ala Pro Gly Pro Tyr Pro Ser
114          40          45          50
116 GCC GCC CCT CCC CCG CCC GGC CCC GGC CCC CCT CCC TCC CGG CAG AGC      366
117 Ala Ala Pro Pro Pro Pro Gly Pro Gly Pro Pro Pro Ser Arg Gln Ser
118          55          60          65
120 TCG CCT CCC TCC GCC TCA GAC TGT TTT GGT AGC AAC GGC AAC GGC GGC      414
121 Ser Pro Pro Ser Ala Ser Asp Cys Phe Gly Ser Asn Gly Asn Gly Gly
122          70          75          80
124 GGC GCG TTT CGG CCC GGC TCC CGG CGG CTC CTT GGT CTC GGC GGC CCT      462
125 Gly Ala Phe Arg Pro Gly Ser Arg Arg Leu Leu Gly Leu Gly Gly Pro
126   85          90          95          100
128 CCC CGC CCC TTC GTC GTC GTC CTT CTC CCC CTC GCC AGC CCG GGC GCC      510
129 Pro Arg Pro Phe Val Val Val Leu Leu Pro Leu Ala Ser Pro Gly Ala
130          105          110          115
132 CCT CCG GCC GCG CCA ACC CGC GCC TCC CCG CTC GGC GCC CGT GCG TCC      558
133 Pro Pro Ala Ala Pro Thr Arg Ala Ser Pro Leu Gly Ala Arg Ala Ser
134          120          125          130
136 CCG CCG CGT TCC GGC GTC TCC TTG GCG CGC CCG GCT CCC GGC TGT CCC      606
137 Pro Pro Arg Ser Gly Val Ser Leu Ala Arg Pro Ala Pro Gly Cys Pro
138          135          140          145

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|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 140 | CGC | CCG | GCG | TGC | GAG | CCG | GTG | TAT | GGG | CCC | CTC | ACC | ATG | TCG | CTG | AAG | 654  |
| 141 | Arg | Pro | Ala | Cys | Glu | Pro | Val | Tyr | Gly | Pro | Leu | Thr | Met | Ser | Leu | Lys |      |
| 142 |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |     |     |     |     |      |
| 144 | CCC | CAG | CAG | CAG | CAG | CAG | CAG | CAG | CAA | CAG | CAG | CAG | CAG | CAA | CAG |     | 702  |
| 145 | Pro | Gln | Gln | Gln | Gln | Gln | Gln | Gln | Gln | Gln | Gln | Gln | Gln | Gln | Gln | Gln |      |
| 146 | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |     |     | 180 |      |
| 148 | CAG | CAG | CAG | CAG | CAG | CAG | CCG | CCG | CCC | GCG | GCT | GCC | AAT | GTC | CGC |     | 750  |
| 149 | Gln | Gln | Gln | Gln | Gln | Gln | Pro | Pro | Ala | Ala | Ala | Ala | Asn | Val | Arg |     |      |
| 150 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |     | 195 |     |     |      |
| 152 | AAG | CCC | GGC | GGC | AGC | GGC | CTT | CTA | GCG | TCG | CCC | GCC | GCC | GCG | CCT | TCG | 798  |
| 153 | Lys | Pro | Gly | Gly | Ser | Gly | Leu | Leu | Ala | Ser | Pro | Ala | Ala | Ala | Pro | Ser |      |
| 154 |     |     | 200 |     |     |     |     |     | 205 |     |     |     |     | 210 |     |     |      |
| 156 | CCG | TCC | TCG | TCC | TCG | GTC | TCC | TCG | TCC | TCG | GCC | ACG | GCT | CCC | TCC | TCG | 846  |
| 157 | Pro | Ser | Ser | Ser | Ser | Val | Ser | Ser | Ser | Ser | Ala | Thr | Ala | Pro | Ser | Ser |      |
| 158 |     |     | 215 |     |     |     |     |     | 220 |     |     |     |     | 225 |     |     |      |
| 160 | GTG | GTC | GCG | GCG | ACC | TCC | GGC | GGC | GGG | AGG | CCC | GGC | CTG | GGC | AGA | GGT | 894  |
| 161 | Val | Val | Ala | Ala | Thr | Ser | Gly | Gly | Gly | Arg | Pro | Gly | Leu | Gly | Arg | Gly |      |
| 162 |     | 230 |     |     |     |     | 235 |     |     |     |     |     | 240 |     |     |     |      |
| 164 | CGA | AAC | AGT | AAC | AAA | GGA | CTG | CCT | CAG | TCT | ACG | ATT | TCT | TTT | GAT | GGA | 942  |
| 165 | Arg | Asn | Ser | Asn | Lys | Gly | Leu | Pro | Gln | Ser | Thr | Ile | Ser | Phe | Asp | Gly |      |
| 166 | 245 |     |     |     | 250 |     |     |     |     | 255 |     |     |     |     |     | 260 |      |
| 168 | ATC | TAT | GCA | AAT | ATG | AGG | ATG | GTT | CAT | ATA | CTT | ACA | TCA | GTT | GTT | GGC | 990  |
| 169 | Ile | Tyr | Ala | Asn | Met | Arg | Met | Val | His | Ile | Leu | Thr | Ser | Val | Val | Gly |      |
| 170 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |     | 275 |     |     |      |
| 172 | TCC | AAA | TGT | GAA | GTA | CAA | GTG | AAA | AAT | GGA | GGT | ATA | TAT | GAA | GGA | GTT | 1038 |
| 173 | Ser | Lys | Cys | Glu | Val | Gln | Val | Lys | Asn | Gly | Gly | Ile | Tyr | Glu | Gly | Val |      |
| 174 |     |     | 280 |     |     |     |     |     | 285 |     |     |     |     | 290 |     |     |      |
| 176 | TTT | AAA | ACT | TAC | AGT | CCG | AAG | TGT | GAT | TTG | GTA | CTT | GAT | GCC | GCA | CAT | 1086 |
| 177 | Phe | Lys | Thr | Tyr | Ser | Pro | Lys | Cys | Asp | Leu | Val | Leu | Asp | Ala | Ala | His |      |
| 178 |     |     | 295 |     |     |     |     | 300 |     |     |     |     |     | 305 |     |     |      |
| 180 | GAG | AAA | AGT | ACA | GAA | TCC | AGT | TCG | GGG | CCG | AAA | CGT | GAA | GAA | ATA | ATG | 1134 |
| 181 | Glu | Lys | Ser | Thr | Glu | Ser | Ser | Ser | Gly | Pro | Lys | Arg | Glu | Glu | Ile | Met |      |
| 182 |     | 310 |     |     |     |     | 315 |     |     |     |     |     | 320 |     |     |     |      |
| 184 | GAG | AGT | ATT | TTG | TTC | AAA | TGT | TCA | GAC | TTT | GTT | GTG | GTA | CAG | TTT | AAA | 1182 |
| 185 | Glu | Ser | Ile | Leu | Phe | Lys | Cys | Ser | Asp | Phe | Val | Val | Val | Gln | Phe | Lys |      |
| 186 | 325 |     |     |     | 330 |     |     |     |     | 335 |     |     |     |     |     | 340 |      |
| 188 | GAT | ATG | GAC | TCC | AGT | TAT | GCA | AAA | AGA | GAT | GCT | TTT | ACT | GAC | TCT | GCT | 1230 |
| 189 | Asp | Met | Asp | Ser | Ser | Tyr | Ala | Lys | Arg | Asp | Ala | Phe | Thr | Asp | Ser | Ala |      |
| 190 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |     | 355 |     |     |      |
| 192 | ATC | AGT | GCT | AAA | GTG | AAT | GGC | GAA | CAC | AAA | GAG | AAG | GAC | CTG | GAG | CCC | 1278 |
| 193 | Ile | Ser | Ala | Lys | Val | Asn | Gly | Glu | His | Lys | Glu | Lys | Asp | Leu | Glu | Pro |      |
| 194 |     |     | 360 |     |     |     |     |     | 365 |     |     |     |     | 370 |     |     |      |
| 196 | TGG | GAT | GCA | GGT | GAA | CTC | ACA | GCC | AAT | GAG | GAA | CTT | GAG | GCT | TTG | GAA | 1326 |
| 197 | Trp | Asp | Ala | Gly | Glu | Leu | Thr | Ala | Asn | Glu | Glu | Leu | Glu | Ala | Leu | Glu |      |
| 198 |     |     | 375 |     |     |     |     | 380 |     |     |     |     |     | 385 |     |     |      |
| 200 | AAT | GAC | GTA | TCT | AAT | GGA | TGG | GAT | CCC | AAT | GAT | ATG | TTT | CGA | TAT | AAT | 1374 |
| 201 | Asn | Asp | Val | Ser | Asn | Gly | Trp | Asp | Pro | Asn | Asp | Met | Phe | Arg | Tyr | Asn |      |
| 202 |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |     |     |     |     |      |
| 204 | GAA | GAA | AAT | TAT | GGT | GTA | GTG | TCT | ACG | TAT | GAT | AGC | AGT | TTA | TCT | TCG | 1422 |

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 205 | Glu | Glu | Asn | Tyr | Gly | Val | Val | Ser | Thr | Tyr | Asp | Ser | Ser | Leu | Ser | Ser |      |
| 206 | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |     |     | 420 |     |      |
| 208 | TAT | ACA | GTG | CCC | TTA | GAA | AGA | GAT | AAC | TCA | GAA | GAA | TTT | TTA | AAA | CGG | 1470 |
| 209 | Tyr | Thr | Val | Pro | Leu | Glu | Arg | Asp | Asn | Ser | Glu | Glu | Phe | Leu | Lys | Arg |      |
| 210 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |     |     | 435 |     |      |
| 212 | GAA | GCA | AGG | GCA | AAC | CAG | TTA | GCA | GAA | GAA | ATT | GAG | TCA | AGT | GCC | CAG | 1518 |
| 213 | Glu | Ala | Arg | Ala | Asn | Gln | Leu | Ala | Glu | Glu | Ile | Glu | Ser | Ser | Ala | Gln |      |
| 214 |     |     |     | 440 |     |     |     |     |     | 445 |     |     |     |     | 450 |     |      |
| 216 | TAC | AAA | GCT | CGA | GTG | GCC | CTG | GAA | AAT | GAT | GAT | AGG | AGT | GAG | GAA | GAA | 1566 |
| 217 | Tyr | Lys | Ala | Arg | Val | Ala | Leu | Glu | Asn | Asp | Asp | Arg | Ser | Glu | Glu | Glu |      |
| 218 |     |     | 455 |     |     |     |     |     | 460 |     |     |     |     | 465 |     |     |      |
| 220 | AAA | TAC | ACA | GCA | GTT | CAG | AGA | AAT | TCC | AGT | GAA | CGT | GAG | GGG | CAC | AGC | 1614 |
| 221 | Lys | Tyr | Thr | Ala | Val | Gln | Arg | Asn | Ser | Ser | Glu | Arg | Glu | Gly | His | Ser |      |
| 222 |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |     |     |     |     |      |
| 224 | ATA | AAC | ACT | AGG | GAA | AAT | AAA | TAT | ATT | CCT | CCT | GGA | CAA | AGA | AAT | AGA | 1662 |
| 225 | Ile | Asn | Thr | Arg | Glu | Asn | Lys | Tyr | Ile | Pro | Pro | Gly | Gln | Arg | Asn | Arg |      |
| 226 | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |     |     |     | 500 |      |
| 228 | GAA | GTC | ATA | TCC | TGG | GGA | AGT | GGG | AGA | CAG | AAT | TCA | CCG | CGT | ATG | GGC | 1710 |
| 229 | Glu | Val | Ile | Ser | Trp | Gly | Ser | Gly | Arg | Gln | Asn | Ser | Pro | Arg | Met | Gly |      |
| 230 |     |     |     | 505 |     |     |     |     |     | 510 |     |     |     |     | 515 |     |      |
| 232 | CAG | CCT | GGA | TCG | GGC | TCC | ATG | CCA | TCA | AGA | TCC | ACT | TCT | CAC | ACT | TCA | 1758 |
| 233 | Gln | Pro | Gly | Ser | Gly | Ser | Met | Pro | Ser | Arg | Ser | Thr | Ser | His | Thr | Ser |      |
| 234 |     |     | 520 |     |     |     |     |     |     | 525 |     |     |     | 530 |     |     |      |
| 236 | GAT | TTC | AAC | CCG | AAT | TCT | GGT | TCA | GAC | CAA | AGA | GTA | GTT | AAT | GGA | GGT | 1806 |
| 237 | Asp | Phe | Asn | Pro | Asn | Ser | Gly | Ser | Asp | Gln | Arg | Val | Val | Asn | Gly | Gly |      |
| 238 |     |     | 535 |     |     |     |     |     | 540 |     |     |     |     | 545 |     |     |      |
| 240 | GTT | CCC | TGG | CCA | TCG | CCT | TGC | CCA | TCT | CCT | TCC | TCT | CGC | CCA | CCT | TCT | 1854 |
| 241 | Val | Pro | Trp | Pro | Ser | Pro | Cys | Pro | Ser | Pro | Ser | Ser | Arg | Pro | Pro | Ser |      |
| 242 |     | 550 |     |     |     |     | 555 |     |     |     |     | 560 |     |     |     |     |      |
| 244 | CGC | TAC | CAG | TCA | GGT | CCC | AAC | TCT | CTT | CCA | CCT | CGG | GCA | GCC | ACC | CCT | 1902 |
| 245 | Arg | Tyr | Gln | Ser | Gly | Pro | Asn | Ser | Leu | Pro | Pro | Arg | Ala | Ala | Thr | Pro |      |
| 246 | 565 |     |     |     |     | 570 |     |     |     |     | 575 |     |     |     |     | 580 |      |
| 248 | ACA | CGG | CCG | CCC | TCC | AGG | CCC | CCC | TCG | CGG | CCA | TCC | AGA | CCC | CCG | TCT | 1950 |
| 249 | Thr | Arg | Pro | Pro | Ser | Arg | Pro | Pro | Ser | Arg | Pro | Ser | Arg | Pro | Pro | Ser |      |
| 250 |     |     |     | 585 |     |     |     |     |     | 590 |     |     |     |     | 595 |     |      |
| 252 | CAC | CCC | TCT | GCT | CAT | GGT | TCT | CCA | GCT | CCT | GTC | TCT | ACT | ATG | CCT | AAA | 1998 |
| 253 | His | Pro | Ser | Ala | His | Gly | Ser | Pro | Ala | Pro | Val | Ser | Thr | Met | Pro | Lys |      |
| 254 |     |     | 600 |     |     |     |     |     |     | 605 |     |     |     | 610 |     |     |      |
| 256 | CGC | ATG | TCT | TCA | GAA | GGG | CCT | CCA | AGG | ATG | TCC | CCA | AAG | GCC | CAG | CGA | 2046 |
| 257 | Arg | Met | Ser | Ser | Glu | Gly | Pro | Pro | Arg | Met | Ser | Pro | Lys | Ala | Gln | Arg |      |
| 258 |     |     | 615 |     |     |     |     |     | 620 |     |     |     |     | 625 |     |     |      |
| 260 | CAT | CCT | CGA | AAT | CAC | AGA | GTT | TCT | GCT | GGG | AGG | GGT | TCC | ATA | TCC | AGT | 2094 |
| 261 | His | Pro | Arg | Asn | His | Arg | Val | Ser | Ala | Gly | Arg | Gly | Ser | Ile | Ser | Ser |      |
| 262 |     | 630 |     |     |     |     | 635 |     |     |     |     | 640 |     |     |     |     |      |
| 264 | GGC | CTA | GAA | TTT | GTA | TCC | CAC | AAC | CCA | CCC | AGT | GAA | GCA | GCT | ACT | CCT | 2142 |
| 265 | Gly | Leu | Glu | Phe | Val | Ser | His | Asn | Pro | Pro | Ser | Glu | Ala | Ala | Thr | Pro |      |
| 266 | 645 |     |     |     |     | 650 |     |     |     |     | 655 |     |     |     |     | 660 |      |
| 268 | CCA | GTA | GCA | AGG | ACC | AGT | CCC | TCG | GGG | GGA | ACG | TGG | TCA | TCA | GTG | GTC | 2190 |
| 269 | Pro | Val | Ala | Arg | Thr | Ser | Pro | Ser | Gly | Gly | Thr | Trp | Ser | Ser | Val | Val |      |

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|     |   |     |     |     |     |     |     |      |
|-----|---|-----|-----|-----|-----|-----|-----|------|
| 270 |   | 665 |     | 670 |     | 675 |     |      |
| 272 | AGT GGG GTT CCA AGA TTA TCC CCT AAA ACT CAT AGA CCC AGG TCT CCC |     |     |     |     |     |     | 2238 |
| 273 | Ser Gly Val Pro Arg Leu Ser Pro Lys Thr His Arg Pro Arg Ser Pro |     |     |     |     |     |     |      |
| 274 |   | 680 |     | 685 |     | 690 |     |      |
| 276 | AGA CAG AAC AGT ATT GGA AAT ACC CCC AGT GGG CCA GTT CTT GCT TCT |     |     |     |     |     |     | 2286 |
| 277 | Arg Gln Asn Ser Ile Gly Asn Thr Pro Ser Gly Pro Val Leu Ala Ser |     |     |     |     |     |     |      |
| 278 |   | 695 |     | 700 |     | 705 |     |      |
| 280 | CCC CAA GCT GGT ATT ATT CCA ACT GAA GCT GTT GCC ATG CCT ATT CCA |     |     |     |     |     |     | 2334 |
| 281 | Pro Gln Ala Gly Ile Ile Pro Thr Glu Ala Val Ala Met Pro Ile Pro |     |     |     |     |     |     |      |
| 282 |   | 710 |     | 715 |     | 720 |     |      |
| 284 | GCT GCA TCT CCT ACG CCT GCT AGT CCT GCA TCG AAC AGA GCT GTT ACC |     |     |     |     |     |     | 2382 |
| 285 | Ala Ala Ser Pro Thr Pro Ala Ser Pro Ala Ser Asn Arg Ala Val Thr |     |     |     |     |     |     |      |
| 286 | 725   |     | 730 |     | 735 |     | 740 |      |
| 288 | CCT TCT AGT GAG GCT AAA GAT TCC AGG CTT CAA GAT CAG AGG CAG AAC |     |     |     |     |     |     | 2430 |
| 289 | Pro Ser Ser Glu Ala Lys Asp Ser Arg Leu Gln Asp Gln Arg Gln Asn |     |     |     |     |     |     |      |
| 290 |   | 745 |     | 750 |     | 755 |     |      |
| 292 | TCT CCT GCA GGG AAT AAA GAA AAT ATT AAA CCC AAT GAA ACA TCA CCT |     |     |     |     |     |     | 2478 |
| 293 | Ser Pro Ala Gly Asn Lys Glu Asn Ile Lys Pro Asn Glu Thr Ser Pro |     |     |     |     |     |     |      |
| 294 |   | 760 |     | 765 |     | 770 |     |      |
| 296 | AGC TTC TCA AAA GCT GAA AAC AAA GGT ATA TCA CCA GTT GTT TCT GAA |     |     |     |     |     |     | 2526 |
| 297 | Ser Phe Ser Lys Ala Glu Asn Lys Gly Ile Ser Pro Val Val Ser Glu |     |     |     |     |     |     |      |
| 298 |   | 775 |     | 780 |     | 785 |     |      |
| 300 | CAT AGA AAA CAG ATT GAT GAT TTA AAG AAA TTT AAG AAT GAT TTT AGG |     |     |     |     |     |     | 2574 |
| 301 | His Arg Lys Gln Ile Asp Asp Leu Lys Lys Phe Lys Asn Asp Phe Arg |     |     |     |     |     |     |      |
| 302 |   | 790 |     | 795 |     | 800 |     |      |
| 304 | TTA CAG CCA AGT TCT ACT TCT GAA TCT ATG GAT CAA CTA CTA AAC AAA |     |     |     |     |     |     | 2622 |
| 305 | Leu Gln Pro Ser Ser Thr Ser Glu Ser Met Asp Gln Leu Leu Asn Lys |     |     |     |     |     |     |      |
| 306 | 805   |     | 810 |     | 815 |     | 820 |      |
| 308 | AAT AGA GAG GGA GAA AAA TCA AGA GAT TTG ATC AAA GAC AAA ATT GAA |     |     |     |     |     |     | 2670 |
| 309 | Asn Arg Glu Gly Glu Lys Ser Arg Asp Leu Ile Lys Asp Lys Ile Glu |     |     |     |     |     |     |      |
| 310 |   | 825 |     | 830 |     | 835 |     |      |
| 312 | CCA AGT GCT AAG GAT TCT TTC ATT GAA AAT AGC AGC AGC AAC TGT ACC |     |     |     |     |     |     | 2718 |
| 313 | Pro Ser Ala Lys Asp Ser Phe Ile Glu Asn Ser Ser Ser Asn Cys Thr |     |     |     |     |     |     |      |
| 314 |   | 840 |     | 845 |     | 850 |     |      |
| 316 | AGT GGC AGC AGC AAG CCG AAT AGC CCC AGC ATT TCC CCT TCA ATA CTT |     |     |     |     |     |     | 2766 |
| 317 | Ser Gly Ser Ser Lys Pro Asn Ser Pro Ser Ile Ser Pro Ser Ile Leu |     |     |     |     |     |     |      |
| 318 |   | 855 |     | 860 |     | 865 |     |      |
| 320 | AGT AAC ACG GAG CAC AAG AGG GGA CCT GAG GTC ACT TCC CAA GGG GTT |     |     |     |     |     |     | 2814 |
| 321 | Ser Asn Thr Glu His Lys Arg Gly Pro Glu Val Thr Ser Gln Gly Val |     |     |     |     |     |     |      |
| 322 |   | 870 |     | 875 |     | 880 |     |      |
| 324 | CAG ACT TCC AGC CCA GCA TGT AAA CAA GAG AAA GAC GAT AAG GAA GAG |     |     |     |     |     |     | 2862 |
| 325 | Gln Thr Ser Ser Pro Ala Cys Lys Gln Glu Lys Asp Asp Lys Glu Glu |     |     |     |     |     |     |      |
| 326 | 885   |     | 890 |     | 895 |     | 900 |      |
| 328 | AAG AAA GAC GCA GCT GAG CAA GTT AGG AAA TCA ACA TTG AAT CCC AAT |     |     |     |     |     |     | 2910 |
| 329 | Lys Lys Asp Ala Ala Glu Gln Val Arg Lys Ser Thr Leu Asn Pro Asn |     |     |     |     |     |     |      |
| 330 |   | 905 |     | 910 |     | 915 |     |      |
| 332 | GCA AAG GAG TTC AAC CCA CGT TCC TTC TCT CAG CCA AAG CCT TCT ACT |     |     |     |     |     |     | 2958 |
| 333 | Ala Lys Glu Phe Asn Pro Arg Ser Phe Ser Gln Pro Lys Pro Ser Thr |     |     |     |     |     |     |      |
| 334 |   | 920 |     | 925 |     | 930 |     |      |

VERIFICATION SUMMARY

DATE: 10/19/2004

PATENT APPLICATION: US/10/750,323

TIME: 09:18:43

Input Set : N:\Crf3\RULE60\10750323.raw.txt

Output Set: N:\CRF4\10192004\J750323.raw

L:27 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:]  
L:28 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]  
L:30 M:220 C: Keyword misspelled or invalid format, [(vii) PRIOR APPLICATION DATA:]  
L:33 M:238 W: Alpha Fields not Ordered, Reordered [(C) CLASSIFICATION:] of (1)(vi)